

Apr. 80

## Lakehead amateur radio club

# HIGH-Q

### GENERAL MEETING APRIL 10

### 8 PM E.M.O. BUILDING

Several matters to be handled at the next general meeting of the LARC. The club will be having a ham demonstration at the Thunder Bay mall on April 25 to 26. A operating station will be set up along with other things dealing with ham radio; So far the following have volunteered for the project. Bill VE3-XJ, John VE3-HTM, Mike VE3-HZW, Bob VE3-IDJ, Gary VE3-HJS, Vic VE3-JAR and Arnold VE3-JAA. There will be a meeting for these people on Tuesday April 8 st the QTH of Dennis VE3-JAQ, 1717 Murray Avenue, st 7:00 p.m.

Looking for a nice weekend in May?. The hams in the Duluth Minnesota area are having a swap meet the weekend of May 3. Area hams are invited to attend, with a few of them making plans already. The time will be from 8 a.m. to 4 p.m. Directions can be probably easily obtained on any one of their repeaters, or the also quite heavily used .52 simplex channel. Remember that you may now operate your ham gear in the U.S.A. without prior notification. A blue declaration slip is always a handy thing to get when you cross into the U.S. so you can prove you had the gear with you and not have to pay duty.

In a future meeting, possibly in May the club might be able to get a film on Amateur Radio.

Tom VE7-BC will leave for China on April 8 and hopes that he has made some progress towards operation from that rare country. If he does get on the air, the pileup will be very evident.

The applications for the 'VX' Award are still trickling in according to manager Bob VE3-JAY. Seems like they will never end. A group in London has their own award and trying to create the same on-air pileups as in the 'VX' days.

Remember that the NORTHWESTERN ONTARIO PHONE NET is now 15 minutes later than before. New time is 00:30 Z=(if an y one checks in). There is also a movement to move the net to 40 meters. Any comments will be appreciated at the meeting this thursday.

LARC

BASIC DIGITAL

In the past two months we have discussed a number of areas relating to TTL integrated circuits, including the NAND gate and the NOR gate.

These two gates can be identified by the following symbols.



If we INVERT the inputs to the NAND gate we will find the truth table for an OR gate results, i.e. with an inverted input to an NAND gate the device will function as an OR gate.

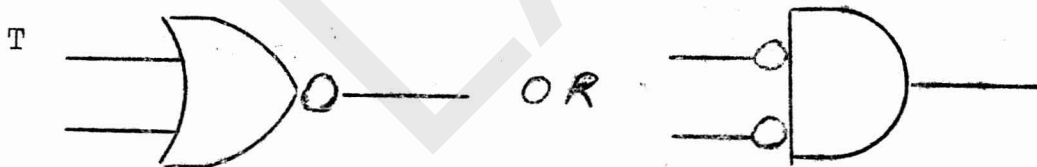
A NAND gate may then be used to perform two functions, i.e. the NAND function and the OR function, by inverting the inputs.

The symbols.



The NOR gate also has two functions, and again this depends upon the input signal. If we invert the inputs to a NOR gate we provide a functional AND gate.

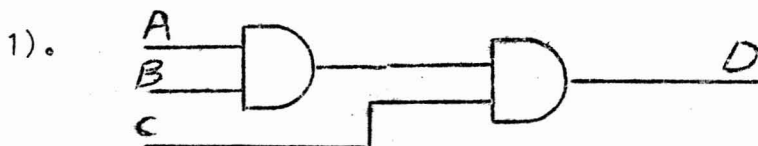
The symbols then for a NOR gate:



The type of symbol used depends upon how the gate is used in the circuit, and is intended to make the logic diagram easier to understand.

This dual function ability of the NAND and NOR gates permits the use of fewer I.C.s in a circuit to perform a particular function.

To review some of the information presented over the past few months I have included the following questions for a self test. The answers should be found elsewhere in this months issue.

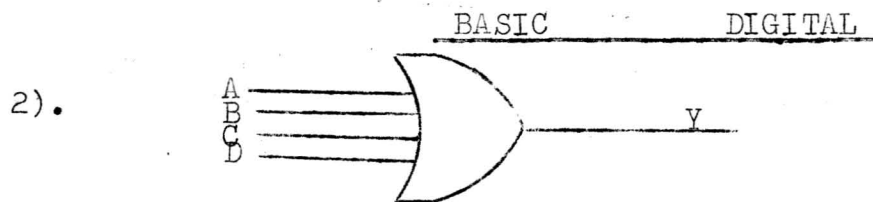


If inputs A and C are HIGH and input B low, what will the output at D be:

Lakehead Amateur Radio Club History Project

- a) LOW      b) HIGH      c) Neither.

APRIL HI - Q



Inputs a,b,c are LOW. D is HIGH. Output Y will be;

- a) LOW      b) HIGH      c) Impossible to determine.
- 3) The NOT gate is used to invert a signal.
- a) TRUE      b) FALSE
- 4) The NAND gate is
- a) An inverted AND gate  
b) A NOT AND gate  
c) Both A and C
- 5) A NOR gate has 3 inputs, A, B, C whose levels are LOW, HIGH, LOW. The output will be
- a) LOW      b) HIGH.

\* \* \* \* \*

FORSALE FORSALE FORSALE FORSALE FORSALE FORDALE FORSALE FORSALE

1 - MODEL 19 RTTY mac ine, C/W demodulator, tape distributor, perforator,,will sacrifice \$100.

1 - MIDLAND 13 - 510 2 meter fully synthesized, 1 watt/25 watt output and complete with AED scanner unit. Will also give away for \$500 or best offer.

contact BOB VE3IDJ

\* \* \* \* \*

1 - SWAN 700CX, Power supply and speaker.

Plug in SWAN - VOX, PHONE PATCH and 16 pole FILTER

1 - HR60 RECEIVER c/w coils for 7.0mHz to 28mHz.

Bandsread and general coverage. \$ 230

Contact LEO, VE3EFQ at 344 - 3088.

\* \* \* \* \*

We will accept any for sale items for publishing FREE of charge.

Call MIKE HZW or BOB IDJ with the details at least 10 days before monthly meeting. HI - Q goes to press 1 week before club meeting, usually a Thursday morning. Items will still make it Wednesday night before 6.00 PM.

APRIL HI-Q

A REUNION VIA HAM RADIO .....Bob VE3-JAB

It was the spring of 1950 when I drove off to the province of Alberta to my first job. The class of 1950 dispersed across Canada, each pursuing their new set goals.

Thirty years have gone by and much has changed. Having only attended one reunion in 1956 while in Montreal, I thought there must be some way to help others like myself who had not been able to attend the yearly or every fifth year gathering.

Over the past two years I have been fairly active, as an Amateur Radio Operator, and have participated in the Trans-Canada net, as one of my on going interests. The relative ease of contacting friends or family, or helping other Amateurs get into Thunder Bay, all this continues to attract me to the net.

In the latter part of 1988 I had contacted a class mate, then in Ottawa. He provided me with an up to date class mailing list in early 1979. During 1979 I made some single contacts with three of four of this list, spending about 5 minutes on the air with each one of them.

It was during one of these contacts to Victoria that I mentioned to Al, the Victoria operator that I would like to try a coast to coast hookup, he thought it was a good idea and so the on air reunion was conceived.

From January 1980 I began a systematic contact to all on the list, setting up with the host operator and the classmates the time, frequency and date. On Sunday March 23, 1980 at 3 P.M. Thunder Bay time, 2000 Z<sub>7</sub> we all met on 14.140 and after a short time moved off to 14.120. Stations from Halifax to Victoria were copying me with good signals.

Each station was called in t urn from East to West. The class member had an opportunity to bring us all up to date and then asked to listen to the remainder.

Following this information I acted as net controll, assisting e.g. Summerside to arrange with Victoria. to go off frequency for more detailed discussion between the parties interested.

One hour and fourty minutes of fun, fellowship, laughter and some sad news - all the reality of the passing of thirty years.

This was a big forst... none of the class of '50 had ever been involved in or with amateur radio prior to me brief set up call. None of the amateurs has been involved with this type of on air reunion. As one class mate said "We are greatly impressed, not only by the technology which surrounds us in this ham shack, but also by the commeraderie which is most apparent between the participating hams. The ham operators hosted class members in their respective homes for this event.

This was a success due to the willingness of Amateur Radio Operators being willing to assist a fellow ham in a very new experience. Many thanks to VE1-YO, VE1-ANZ, VE1-BCY, VE2-IH, VE2-AM, VE2-AKZ, VE3-EEC, VE3-BWI, VE3-DW, VE4-DE, VE4-AAE, VE5-ZZ, VE5-HG, VE6-AQT, VE7-AXI,

# Minutes of the March general meeting

The meeting was called to order by the vice-president and acting chairman, Bill VE3-EFC. Following the usual round table introduction the financial statement for March was read by VE3-EFC and motion to accept by Leo VE3-EFQ seconded by Tom VE3-EEW. Motion to accept the minutes as printed in HI-Q by Dan VE3-KRO and seconded by VE3-IDJ.

Correspondence: A letter was read from the Canada Games committee stating that they are aware of our presence and will notify us should our assistance in communications be needed.

A letter from the people running the Lake Simcoe Hamfest announced to any people in the Lake Simcoe area that they will be running an event from June 13 to 15.

Old business: Volunteers are needed to help set up the Ham Radio display booth in Thunder Bay Mall on April 24 through 26. Some of the things in mind are an operating HF station, a micro-processor interfaced for RTTY, and a slide presentation. Also help will be needed in making posters etc. If you are interested and not on the list made in January, contact Dennis VE3-JAQ.

New Business: Phil VE3-AXL announced that the Duluth amateurs will be holding a swap meet in early May. Thunder Bay amateurs are quite welcome. The exact date of the swap meet will be available at the next meeting in April.

Dan VE3-KRO announced that the Boy Scouts will be holding their annual Renlevoez on June 27 to July 1. Volunteers will be needed to handle communications from both mobile and fixed locations in Dog Lake area. Contact Dan if you are interested in this project.

Dan VE3-KRO asked if the club might be interested in running an Advanced Amateur class next fall for those interested in upgrading their ticket. There was no response other than that this might be a topic for future discussion.

Bob VE3-JAY asked if the club would be interested in approaching the Canada Games organization for an award and prefix starting in July or so of this year. There was no response.

Les VE3-AYZ asked about the status of the OLD FOR WILLIAM QSL card program. Bob VE3-JAY stated that the club has just received a new batch of cards but it is not known if the club will be receiving any more QSL cards from the Old Forp people. This is because they are no longer operating their own Tourist Information Bureau as in the past.

Bob VE3-KRL gave a quick rundown on the Sibley Cross Country Ski project. All in all things went relatively well between the two mobile stations and the three trail checkpoints that were in the cold bush.

Motion to adjourn the meeting made by Leo VE3-EFQ.

After the meeting everyone sang a Happy Birthday to Bob VE3-JAY. Bob was not heard to mention which one it was, but several whispers that went around the room sounded like forty-something.

As is almost the custom, the post-meeting meeting was held at the coffee shop of the Airline Motel, much to the displeasure of one gentleman, who was suddenly surrounded by a dozen or so unruly hams.



SSTV or slow scan television is yet another mode of operation available to holders of advanced certificates for use on the HF bands.

It is a means of transmitting a TV picture, one frame at a time, using the HF bands. At the present time only still pictures are transmitted, although apparently a small number of hams south of the border have been given permission to transmit limited motion pictures using a slightly different format. (referred to as medium scan TV). Colour transmissions are also becoming the in thing using digital circuit converting units.

The SSTV picture takes approximately 8.5 seconds per frame, i.e. it takes about  $8\frac{1}{2}$  sec. to "paint" a picture from top to bottom on the CRT screen.

128 lines are used with each line containing the black to white shading required to build up the complete picture. This shading is in reality made up of various audio tones ranging in frequency from 1500Hz to 2300Hz representing black to white respectively. A third tone of 1200 Hz is used to provide the horizontal and vertical sync pulses. These pulses tell the beam on the CRT to return to the opposite side of the screen and begin the next line and also tell the beam to return to the top of the screen as the frame has been completed at the bottom of the CRT. These sync pulses are of different lengths to enable the equipment to distinguish between the horiz and vert pulse.

As you can see from the above audio range of frequencies the HF bands may be used for SSTV transmissions, enabling world wide exchanges of video information.

SSTV signals are fed from the output of a camera or cassette recorder into the microphone jack or equivalent of the transmitter. This signal is demodulated on the receive end by connecting the speaker audio into the SSTV monitor. The monitor contains a demodulator unit and a display screen.

As with all modes of amateur radio, modern day electronics plays an important role, digitalizing the audio tones, storing this data in a memory and then converting the data into standard Fast scan television for playback on a regular TV set.

Also like many other items of amateur equipment, SSTV gear may be purchased a) ready to go, b) as a kit c) homebrewed.

My original plan was to build from scratch, however, due to lack of time (commonly referred to as laziness and lack of know-how) I decided to purchase a Venus SS - 2 Kit from Robtronics in Nova-Scotia. The Venus kit comes complete with all necessary components, including the P - 7 long persistence phosphor CRT, stylish cabinet and a Test/alignment tape.

The assembly manual includes full size, 24" x 18" diagrams of each sub - assembly. All components come separately packaged with each of the eight sub - assembly packages individually wrapped. Step by step instructions are easily followed even by the most non-technical orientated person.

The main circuitry is included on one large PC board with many test pads located on the top side for future troubleshooting. When all the sub - assemblies are put together the monitor is ready for the "smoke test".

With power applied the unit is ready for the step by step alignment procedure, with only a cassette recorder, a VOM, and a test tape required.

APRIL HI - Q

SSTV contd.

The final checkout - connect to a speaker and watch the Picture develop on the screen - you hope.

If you have never had the opportunity to view SSTV, then you are in for, in my opinion, quite a treat. This mode offers a tremendous variety of experimentation especially when dealing with AUDIO frequencies, plus the thrill of seeing that face on the other side of the country or world. ( depends upon the face as to the degree of thrill i suppose!! HI )

The SSTV monitor I am using has a small picture, about  $3\frac{1}{4}$  x  $3\frac{1}{4}$  and it is more black and green rather than black and white. This being the result of the P - 7 Phosphor. The picture also begins to fade as soon as it is printed and viewing is best done in a darkened room or with some sort of light shield over the screen. Whenever the signals are good however, the quality is excecellent and it is very easy to distinguish some very fine details in the pictures. To really appreciate the mode it is best to get involved in a QSO and have the fellow on the other end send some pictures to you.

The next step around this shack is to get hold of a camera to permit production of CQ tapes etc. I find the mode so fascinating that even those expensive digital jobbies are beginning to look good, too bad I will need to sell the house, car, xyl, and kids to get one but then, oh well keep on dream'in!

Anyone out there wishing to take a look at the slow scan operation just give me a land line at 767 - 6541 and we'll be gald to have you over. It would be great having a couple of fellows using the mode here in the Bay. If you are interested in homebrewing a monitor I have some schematics for free and a couple of P - 7 CRT's for a price.

By the way SSTV is classed officially as A5? and requires an endorsement by the local DOC office, which I hope to obtain very shortly.

Bob VE3IDJ

\* \* \* \* \*

For sale:

ROBOT SSTV MONITOR - Model 70 and CAMERA model 80 for \$500  
contact Rocko, VE3HGZ at 519-824-1157

He also has 2 - tape distributors for model 15 or 19 RTTY machines for \$ 25.00 each

- 1 - reperforator for model 15 or 19
- 1 - 7400A - 2 meter transceiver c/w AED scanner.



APRIL HI-Q

DOC NOTES-DOC NOTES-DOC NOTES-DOC NOTES-DOC NOTES-DOC NOTES

**Subject:** forbidden countries list

The following administrations have forbidden radiocommunications between their amateur stations and amateur stations in other countries

Iraq

Peoples Democratic Republic of Kampuchea (1)

Libia

Somalia

Turkey

Vietnam

Yemen (Peoples Democratic Republic) (2)

- 1. Kampuchea (Peoples Democratic Republic) Formerly Khmer Republic  
Amateur radiocommunication are authorized with station XU1-AA only
- 2 Yemen (Peoples Democratic Republic) formerly Aden.  
Call sign allocated are 70A to 70Z.

## NOTICE RE D.O.C. EXAMS

For those Amateurs who wrote and passed their Amateur Exams in July of 1979 and immediately went on the air, you are eligible to write the Advanced Amateur Exam in June 18, 1980.

As in the past, your application to attend the examinations is required at least one month prior to the examination date.

.....from local DOC office

\* \* \* \* \*

Not news from Les VE3-AYZ

The COMSONT net is now 7.074 khz phone 10 a.m. daily. Manager is Roland Beardow VE3-AML. Weather reports from stations is collected on monday wednesday and friday with about 40 stations on the WX checklist. They cover in order, sky, visibility, precipitation, wind, temperature in celsius, barometer and road conditions.

There is a new net on the air, the AURORA NET. Actually a revival of an old net. this meets 0030z on 7.060 phone. 7190 1970

If you have friends in the southern states, you might like to know about the SNOWBIRD NET. This meets daily at 9:30 am EST on 21.260. This is a good one to get news from friends vacationing down south.

\* \* \* \* \*

Looking for a nice vacation? There are a group of yachts going from Sarnia to The Atlantic coast, leaving July 5 and arriving August 30. They are looking for a ham operator to handle the communications. You probably have to supply your own gear, but it sure sound good for a summer vacation. Contact VE3-AML if at all interested.